further comprising a stopper at a position apart from a side surface of the other field magnet.

5. An electric motor according to claim 1, wherein a lead angle of current supply by a controller for controlling said controller is corrected according to a positional shift of a composite magnetic pole of said first field magnet and said second field magnet.

6. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, said shaft and said second field magnet have screw functions to be connected to each other by forming a bolt screw portion in said shaft and a nut portion inside said second field magnet, a displacement in an axial direction of said second field magnet is detected, and a lead angle of current supply by a controller for controlling said inverter is corrected corresponding to a positional shift angle of a composite magnetic pole of said first field magnet and said second field magnet.

7. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a plurality of supporting mechanisms capable of guiding rotational motion and reciprocal motion and the composite motion of said second field magnet is arranged between said second field magnet and said shaft.

8. A rotary electric machine according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a sleeve is inserted between the inside of said second filed magnet and said shaft to fix said second field magnet to said sleeve.

10. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, a plurality of springs is arranged before and after said second field magnet to guide the rotational motion and the reciprocal motion and the composite motion of said second field magnet.

11. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, a depressing portion is formed on a side surface of said first field magnet where said first field magnet and said second field magnet are in contact with each other, a projecting portion also serving as a function of said sleeve is formed in said second field magnet.

12. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a stopper is arranged at a position apart from a side

surface of said second field magnet, said stopper having a supporting mechanism for guiding rotational motion and reciprocal motion and the composite motion to said second field magnet and said shaft.

13. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, an air gap between said rotor having said second field magnet and said stator is larger than an air gap between the rotor having said first field magnet and said stator.

14. An electric motor according to claim 1, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, said stopper and said servo mechanism are provided inside of said second field magnet.

15. A machine tool according to claim 1, wherein said electric motor is operated by making positions of the magnetic pole centers of said first field magnet and said second field magnet in phase during low speed operation, and by making the positions of the magnetic pole centers of said first field magnet and said second field magnet out of phase during high speed and low load operation.

16. A machine tool according to claim 1, wherein said electric motor is operated by making positions of the magnetic pole centers of said first field magnet and said second field magnet in phase during the operation at one revolution speed, and by making the positions of the magnetic pole centers of said first field magnet and said second field magnet out of phase during the operation at the other revolution speed.

(A copy of the marked-up version of amended Claims 3, 5-8 and 10-16 are attached to this Preliminary Amendment).

Please ADD new Claims 17-29 as follows:

17. An electric motor according to claim 2, wherein

said mechanism for shifting one field magnet with respect to the other field magnet is constructed so that one field magnet may be fixed to a shaft, and the other field magnet may be provided movably and freely with respect to said shaft, and said field magnets have screw functions to be connected to each other by forming a bolt screw portion in said shaft and a nut portion inside said second field magnet, and

further comprising a stopper at a position apart from a side surface of the other field magnet.

18. An electric motor according to claim 2, wherein a lead angle of current supply by a controller for controlling said controller is corrected according to a

positional shift of a composite magnetic pole of said first field magnet and said second field magnet.

19. An electric motor according to any one of claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, said shaft and said second field magnet have screw functions to be connected to each other by forming a bolt screw portion in said shaft and a nut portion inside said second field magnet, a displacement in an axial direction of said second field magnet is detected, and a lead angle of current supply by a controller for controlling said inverter is corrected corresponding to a positional shift angle of a composite magnetic pole of said first field magnet and said second field magnet.

20. An electric motor according to claim 19, wherein

said mechanism for shifting one field magnet with respect to the other field magnet is constructed so that one field magnet may be fixed to a shaft, and the other field magnet may be provided movably and freely with respect to said shaft, and said field magnets have screw functions to be connected to each other by forming a bolt screw portion in said shaft and a nut portion inside said second field magnet, and

further comprising a stopper at a position apart from a side surface of the other field magnet.

21. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a plurality of supporting mechanisms capable of guiding rotational motion and reciprocal motion and the composite motion of said second field magnet is arranged between said second field magnet and said shaft.

22. A rotary electric machine according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a sleeve is inserted between the inside of said second filed magnet and said shaft to fix said second field magnet to said sleeve.

23. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, a plurality of springs is arranged before and after said second field magnet to guide the rotational motion and the reciprocal motion and the composite motion of said second field magnet.

24. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, a depressing portion is formed on a side surface of said first field magnet where said first field magnet and said second field magnet are in

contact with each other, a projecting portion also serving as a function of said sleeve is formed in said second field magnet.

25. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, and a stopper is arranged at a position apart from a side surface of said second field magnet, said stopper having a supporting mechanism for guiding rotational motion and reciprocal motion and the composite motion to said second field magnet and said shaft.

26. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, an air gap between said rotor having said second field magnet and said stator is larger than an air gap between the rotor having said first field magnet and said stator.

27. An electric motor according to claim 2, wherein said first field magnet is fixed to a shaft, said second field magnet is provided movably and freely with respect to said shaft, said stopper and said servo mechanism are provided inside of said second field magnet.

28. A machine tool according to claim 2, wherein said electric motor is operated by making positions of the magnetic pole centers of said first field magnet and said second field magnet in phase during low speed operation, and by making the positions of the magnetic pole centers of said first field magnet and said second field magnet out of phase during high speed and low load operation.

29. A machine tool according to claim 2, wherein said electric motor is operated by making positions of the magnetic pole centers of said first field magnet and said second field magnet in phase during the operation at one revolution speed, and by making the positions of the magnetic pole centers of said first field magnet and said second field magnet out of phase during the operation at the other revolution speed.

REMARKS

Entry of the amendments to the claims before examination of the application is respectfully requested. These claims have been amended to remove multiple dependencies.

If there are any questions regarding this Preliminary Amendment or this application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Account of Crowell & Morning LLP, Deposit Account No. 05-1323 (Docket No. 381NP/50960).

Respectfully submitted,

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